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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/510,629	02/22/2000	Willilam M. Hartmann	6550-000043	2872

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Harness, Dickey & Pierce, P.L.C.  
P.O. Box 828  
Bloomfield Hills, MI 48303

EXAMINER

GARCIA OTERO, EDUARDO

ART UNIT	PAPER NUMBER
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2123

DATE MAILED: 02/10/2004

10

Please find below and/or attached an Office communication concerning this application or proceeding.

**Advisory Action**

Application No.

09/510,629

Applicant(s)

HARTMANN, WILLIAM M.

Examiner

Eduardo Garcia-Otero

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--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 23 January 2004 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE. Therefore, further action by the applicant is required to avoid abandonment of this application. A proper reply to a final rejection under 37 CFR 1.113 may only be either: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114.

**PERIOD FOR REPLY [check either a) or b)]**

- a) ☒ The period for reply expires 3 months from the mailing date of the final rejection.
- b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection. ONLY CHECK THIS BOX WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

1. ☐ A Notice of Appeal was filed on \_\_\_\_\_. Appellant's Brief must be filed within the period set forth in 37 CFR 1.192(a), or any extension thereof (37 CFR 1.191(d)), to avoid dismissal of the appeal.
2. ☒ The proposed amendment(s) will not be entered because:
- (a) ☒ they raise new issues that would require further consideration and/or search (see NOTE below);
- (b) ☒ they raise the issue of new matter (see Note below);
- (c) ☒ they are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
- (d) ☐ they present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: See detailed discussion attached.

3. ☐ Applicant's reply has overcome the following rejection(s): \_\_\_\_\_.
4. ☐ Newly proposed or amended claim(s) \_\_\_\_\_ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
5. ☐ The a) ☐ affidavit, b) ☐ exhibit, or c) ☐ request for reconsideration has been considered but does NOT place the application in condition for allowance because: \_\_\_\_\_.
6. ☐ The affidavit or exhibit will NOT be considered because it is not directed SOLELY to issues which were newly raised by the Examiner in the final rejection.
7. ☒ For purposes of Appeal, the proposed amendment(s) a) ☐ will not be entered or b) ☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

The status of the claim(s) is (or will be) as follows:

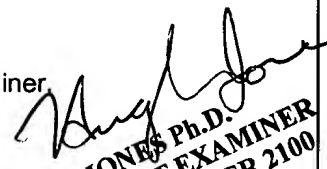
Claim(s) allowed: \_\_\_\_\_.

Claim(s) objected to: \_\_\_\_\_.

Claim(s) rejected: 1-20.

Claim(s) withdrawn from consideration: \_\_\_\_\_.

8. ☐ The drawing correction filed on \_\_\_\_\_ is a) ☐ approved or b) ☐ disapproved by the Examiner.
9. ☐ Note the attached Information Disclosure Statement(s) (PTO-1449) Paper No(s). \_\_\_\_\_.
10. ☐ Other: \_\_\_\_\_

  
HUGH JONES Ph.D.  
PRIMARY PATENT EXAMINER  
TECHNOLOGY CENTER 2100

## ADVISORY ACTION

### *Introduction*

1. Title is: PROCESS FOR HIGH FIDELITY SOUND RECORDING AND REPRODUCTION OF MUSICAL SOUND.
2. First named inventor is: HARTMANN
3. Claims 1-20 have been submitted, examined, and rejected.
4. This action is in response to the after final proposed amendment received 1/23/04.
5. The amendment is objected to because it introduces new matter.

### *Index of prior art and Definitions*

6. **Carver** refers to US Patent 4,309,570 (from IDS).
7. **Aronis** refers to US Patent 4,175,466.
8. **Logue** refers to US Patent 6,279,379.
9. **Sakai** refers to US Patent 6,526,849.
10. **Krauss** refers to US Patent 2,806,953.
11. **Sims** refers to US Patent 5,206,913.
12. **Tucker** refers to The Computer Science and Engineering Handbook, by Allen B. Tucker, CRC Press, ISBN: 0-8493-2909-4, 1996, pages 1557-1559, and 1354-1360.
13. **Illustrated Oxford Dictionary** refers to Illustrated Oxford Dictionary, Oxford University Press, 1998, ISBN 0-7894-3557-8, pages 270 and 667.
  - ensemble**: "a group of actors, dancers, musicians, etc., performing together..." page 270.
  - quartet**: "composition for four voices or instruments... the performers of such a piece", at page 667.
14. **McGraw-Hill Dictionary** refers to The McGraw-Hill Dictionary of Scientific and Technical Terms, Fourth Edition, by McGraw-Hill Companies, Inc., ISBN 0-07-045270-9, 1989.
  - contact microphone**: "[ENG ACOUS] A microphone designed to pick up mechanical vibrations directly and convert them into corresponding electrical currents or voltages."
  - inversion**: "... [COMMUN] The process of scrambling speech for secrecy by beating the voice signal with a fixed, higher audio frequency and using only the difference

**pickup:** “A device that converts a sound, scene, measurable quantity, or other form of intelligence into a corresponding electrical signals, as in a microphone, phonograph pickup, or television camera.”

**scale:** “graduated series of musical tones ascending or descending in order of pitch according to a specified scheme of their intervals”.

15. **Webster** refers to Merriam-Webster’s Collegiate Dictionary, Tenth Edition, Merriam-Webster, 2000, ISBN 0-87779-708-0.

**ensemble:** “concerted music of two or more parts... the musicians engaged in the performance of a musical ensemble”

**octave:** “a musical interval embracing eight diatonic degrees... a tone or note at this interval... the harmonic combination of two tones an octave apart... the whole series of notes, tones, or digitals comprised within this interval and forming the unit of the modern scale... the interval between two frequencies (as in an electromagnetic spectrum) having a ratio of 2 to 1”.

16. **IEEE Dictionary** refers to The Authoritative Dictionary of IEEE Standards and Terms, Seventh Edition, by IEEE Press, ISBN 0-7381-2601-2, 2000.

***Applicant Remarks***

17. The Examiner will closely follow Applicant’s headings.
18. **NEW MATTER OBJECTION.** Applicant cites specification page 12 as disclosing the claim 16 term “and by selecting a frequency-decision to invert the mixture”. Page 12 does disclose “possible inversion”, but does not disclose “**selecting a frequency-dependent decision to invert the mixture**”. The new matter objection is maintained.
19. **35 USC 112 FIRST PARAGRAPH.** Applicant asserts that the claim 16 term “**selecting a frequency-dependent decision to invert the mixture**” is enabled by specification page 12 “...multiple loudspeakers... for each instrument... each speaker is driven by a weighted mixture of bridge and F-hole signals with possible inversion...”. The Examiner has unsuccessfully searched multiple dictionaries for a clear definition of “invert” that applies to this context: including McGraw-Hill Dictionary and IEEE Dictionary. For example, McGraw Hill Dictionary defines inversion as “... [COMMUN] The process of scrambling speech for secrecy by beating the voice signal with a fixed, higher audio frequency and using

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- only the difference frequencies”. Said McGraw-Hill definition is the only definition related to audio signals, and does not appear relevant to the present application.
20. Inversion also has special meaning regarding transformation functions in signal control theory, but again that does not appear relevant.
  21. Further, the procedure for “selecting a frequency dependent decision” is not clear and not enabled. Specifically, the procedure for making a selection is not enabled, and the relationship of said selection decision to said inverting is not enabled.
  22. Thus, the enablement issues are not satisfied by mere reference to specification page 12, and the enablement rejections are maintained.
  23. 35 USC 112 SECOND PARAGRAPH. The indefiniteness rejection the claim 16 term **“selecting a frequency-dependent decision to invert the mixture”** is maintained for the same reasons as stated above regarding enablement.
  24. 35 USC 103 REJECTIONS. Applicant traverses the prior actions rejections. Applicant discusses Tucker in detail. Specifically, Applicant asserts that Tucker’s complex virtual reality audio system does not disclose the simplest case, which is when the desired perceived spatial location matches the location of the specific speaker, for example when 1 speaker is used to simulate one instrument at the same location then no balancing is needed. Similarly, when 2 speakers are used to simulate 2 instruments at the same 2 locations, then no balancing is needed. The Examiner finds this assertion unpersuasive.
  25. Tucker’s complex ability to simulate a sound source at a location not matched by an actual speaker implicitly discloses the underlying simplest case. The Examiner agrees that Tucker explicitly discloses the more complex situation where the locations are not matched, but maintains that Tucker also implicitly discloses the much simpler case where the locations are matched (and no balancing is needed to shift the apparent location of the virtual instrument).
  26. Applicant proposes amendments to all independent claims (1, 12, 16). Said proposed amendments are not entered.
  27. PROPOSED AMENDMENTS. Applicant proposes amending claim 16 by inserting the term **“in order to impart a fine structure to its assigned instrument, thereby generating different high frequency harmonics that radiate in directions that change as the musical notes change”**. Said proposed amendment introduces substantial issues regarding new

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matter, and regarding claim interpretation, and additional limitations that must be searched. And most important, said proposed amendment is inserted immediately after (and thus further modifying) the term "selecting a frequency-dependent decision to invert the mixture" which is rejected under 35 USC 112 as indefinite and as not enabled, thus further complicating pending issues for appeal.

28. Thus, the proposed amendment to claim 16 is not entered. The other amendments are not entered for the same reasons.

***Conclusions***

29. All claims stand rejected.

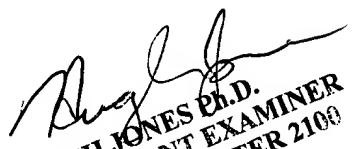
30. All objections and rejections from the prior action are maintained.

31. Applicant's proposed amendments are not entered.

***Communication***

32. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eduardo Garcia-Otero whose telephone number is 703-305-0857. The examiner can normally be reached on Tuesday through Friday from 9:00 AM to 8:00 PM. If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Kevin Teska, can be reached at (703) 305-9704. The fax phone number for this group is 703-872-9306. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the group receptionist, whose telephone number is (703) 305-3900.

\* \* \* \*

  
HUGH JONES P.D.  
PRIMARY PATENT EXAMINER  
TECHNOLOGY CENTER 2100